REMARKS/ARGUMENTS

Claims 21-50 are pending in the application. Claims 38-40 are amended herein. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

In paragraph 2 of the Action, the Examiner objected to claims 38 and 40 as containing the phrase "adapted to," which the Examiner alleges "suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure" and "does not limit the scope of a claim or claim limitation," citing to MPEP 2111.04. The Applicant has amended independent claims 38 and 40 herein (and dependent claim 39) to recite "means-plus-function" elements pursuant to 35 U.S.C. 112, sixth paragraph. It is believed that these amendments render moot the objections to claims 38 and 40.

In paragraph 4, the Examiner rejected claims 21-50 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner alleges that, "[i]n claims 21, 32, 38, 40, 48, and 50, the providing step is not supported by the original disclosure." The Applicant respectfully submits that these rejections are in error. Claim 21 recites, *inter alia*, "(d) providing the determined route to one or more nodes in the packet network to enable the routing of the packetized data along the determined route." Support is provided in the specification, e.g., on page 17, lines 19-20, which show a program line as being: "OUTPUT: P_{LSP} (provides the path of nodes and links between *a* and *b* having a capacity of *D* units of bandwidth)" (emphasis added). Further support is provided in the specification, e.g., on page 10, lines 2-8, wherein it is explained that this path is provided to one or more nodes in the packet network:

> Each LSP request arrives at, for example, the router or route server, which determines the explicit-route for the LSP. If a route server is used, the request either arrives directly to the route server (if the LSPs are being set-up manually) or may first arrive at ingress routers which then query the route server via a messaging or signaling protocol to generate the explicit route. The explicit route is then communicated back to the ingress router. The ingress router then uses a signaling mechanism such as RSVP or LDP to set-up the path to the egress and to reserve bandwidth on each link on the path.

(emphasis added). These passages clearly provide support for the notion of providing the determined route to one or more nodes to enable the routing of the packetized data along the determined route. Therefore, the rejection of claim 21 is improper and should be withdrawn. For similar reasons, the Applicant also submits that the rejections of claims 32, 38, 40, 48, and 50 are also improper and should be withdrawn.

In paragraph 5, the Examiner rejects claims 38-47 under 35 U.S.C. 112, first paragraph, "as failing to enable any person skilled in the art to make and use the invention because a single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph," citing to MPEP 2164.08(a). The Applicant has amended independent claims 38 and 40 (and dependent claim 39) herein to recite "means-plus-function" elements pursuant to 35 U.S.C. 112, sixth paragraph, with each of claims 38 and 40 now reciting a plurality of "means for" elements. It is believed that these amendments render moot the rejections of claims 38-40 under 35 U.S.C. 112, first paragraph.

With regard to the rejections of claims 41-47 under 35 U.S.C. 112, first paragraph, these claims depend variously from independent method claims 21 and 32. The Applicant does not understand why claims 41-47, which are method claims, would be rejected as being "single means" claims and

respectfully asks that the Examiner clarify the rejection of claims 41-47 so that the Applicant may respond appropriately.

In paragraph 7, the Examiner rejected claims 21-50 under 35 U.S.C. §101 as directed to non-statutory subject matter because:

> [c]laims 21, 32, 38, 40, 48, and 50 are methods, [an apparatus, and a computer-readable medium] claims that do nothing more than providing a path between nodes in a packet network. The generating, modifying, determining, and providing steps lack a practical application that produces useful, concrete and tangible results. The determining and providing steps are not considered as "practical application". For example, it is required to have a final practical step in the claims such as transmitting a packet based on the determined path.

In support, the Examiner cites to pages 18-23 of the Guidelines available at www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf. The Applicant respectfully submits that these rejections are in error and draws the Examiner's attention to page 37 of the same Guidelines, wherein it is explained how these Guidelines should be interpreted, with reference to the relevant Federal Circuit case law on point. In particular, the Guidelines explain the following under the heading "ii. Useful, Concrete and Tangible Result":

> In State Street [*State Street Bank & Trust Co. v. Signature Financial Group Inc.,* 149 F. 3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998)], the Federal Circuit examined some of its prior section 101 cases, observing that the claimed inventions in those cases were each for a "practical application of an abstract idea" because the elements of the invention operated to produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. For example, the court in State Street noted that the claimed invention in Alappat [*In re Alappat,* 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994)] "constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced 'a useful, concrete and tangible result' - smooth waveform." Id. Similarly, the claimed invention in Arrhythmia [*Arrhythmia Research Tech. v. Corazonix Corp.,* 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992)] "constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it corresponded to a useful, concrete and tangible thing - the condition of a patient's heart." Id.

> In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result is "useful, tangible and concrete." The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a Sec. 101 analysis. [*AT&T Corp. v. Excel Communications, Inc.,* 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1451 (Fed. Cir. 1999)].

> A claim limited to a machine or manufacture, which has a practical application, is statutory. In most cases, a claim to a specific machine or manufacture will have a practical application. See Alappat, 33 F.3d at 1544, 31 USPQ2d at 1557 ("the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means. This is not a disembodied mathematical concept which may be characterized as an 'abstract idea,' but rather a specific machine to produce a useful, concrete, and tangible result."); and State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02 ("the transformation of data, representing discrete dollar amounts, by a machine through a series of

mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' - a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades."). Also see AT&T, 172 F.3d at 1358, 50 USPQ2d at 1452 (Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held patentable subject matter because the process used the algorithm to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle.).
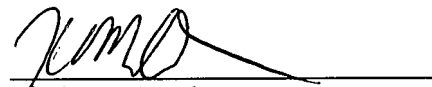
The Examiner argues that presently-pending claims 21, 32, 38, 40, 48, and 50 "do nothing more than providing a path between nodes in a packet network." These are precisely the "useful, concrete, and tangible results" that make these claims compliant with section 101! As the Guidelines point out, in *Alappat*, outputting a smooth waveform was held to constitute a useful, concrete, and tangible result; in *Arrhythmia*, outputting the condition of a patient's heart was held to constitute a useful, concrete, and tangible result; in *State Street*, outputting a final share price was held to constitute a useful, concrete, and tangible result.

Outputting a path between nodes in a packet network is at least as useful, concrete, and tangible as the information outputted in *Alappat*, *Arrhythmia*, and *State Street*, if not more so. The path being outputted to one or more nodes in the packet network is useful, because it enables the routing of the packetized data along the determined route. The path being outputted to one or more nodes in the packet network is concrete and tangible, because it is not a mere mathematical abstraction or algorithm, but rather, actual information that is capable of being perceived by the senses. The Examiner's assertion that "it is required to have a final practical step in the claims such as transmitting a packet based on the determined path" has absolutely no basis in fact or in law – there is no requirement whatsoever that there be any such "final practical step" or that "transmitting a packet" must be claimed. Rather, the Guidelines make it clear that compliance with section 101 requires only that the final result achieved by the claimed invention be "useful, tangible and concrete." Because the final result in each of claims 21, 32, 38, 40, 48, and 50 is outputting a path between nodes in a packet network, which, as discussed above, is "useful, tangible and concrete," these claims are all statutory subject matter in compliance with section 101 according to well-established Federal Circuit case law. Therefore, the Applicant respectfully submits that these rejections are in error and should be withdrawn.

The Applicant notes that the Examiner has allowed all of the presently-pending claims over the prior art and believes that the entire application is now in condition for allowance. Early and favorable action is therefore respectfully solicited.

Respectfully submitted,

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Customer No. 46850
Mendelsohn & Associates, P.C.
1500 John F. Kennedy Blvd., Suite 405
Philadelphia, Pennsylvania 19102

Kevin M. Drucker
Registration No. 47,537
Attorney for Applicant
(215) 557-6659 (phone)
(215) 557-8477 (fax)